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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

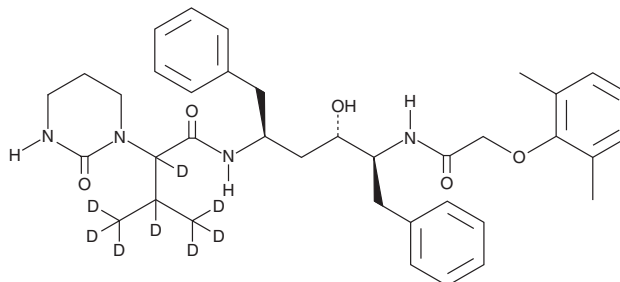
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PRODUCT INFORMATION



Lopinavir-d₈ Item No. 25284

CAS Registry No.: 1322625-54-6
Formal Name: rel-N-[(1R,3R,4R)-4-[[2-(2,6-dimethylphenoxy)acetyl]amino]-3-hydroxy-5-phenyl-1-(phenylmethyl)pentyl]tetrahydro- α -[1-(methyl-d₃)ethyl-1,2,2,2-d₄]-2-oxo-1(2H)-pyrimidineacetamide- α -d
MF: C₃₇H₄₀D₈N₄O₅
FW: 636.9
Chemical Purity: $\geq 98\%$ (Lopinavir)
Deuterium Incorporation: $\geq 99\%$ deuterated forms (d₁-d₈); $\leq 1\%$ d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Lopinavir-d₈ is intended for use as an internal standard for the quantification of lopinavir (Item No. 13854) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Lopinavir-d₈ is supplied as a solid. A stock solution may be made by dissolving the lopinavir-d₈ in the solvent of choice, which should be purged with an inert gas. Lopinavir-d₈ is slightly soluble in methanol and chloroform.

Description

Lopinavir is a potent HIV-1 protease inhibitor ($K_i = 1.3$ pM for wild-type enzyme).¹ It inhibits the replication of clinical isolates of HIV-1 (EC_{50} s = 5-52 nM). Lopinavir reduces the infectious virus yield and viral RNA copy numbers in the culture supernatant of Vero E6 cells infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; EC_{50} s = 26.63 and 26.10 μ M, respectively).² It reduces lung and kidney viral load, bronchointerstitial pneumonia, and pulmonary inflammatory cell infiltration in a marmoset model of Middle East respiratory syndrome coronavirus (MERS-CoV) infection when administered in combination with ritonavir (Item No. 13872).³

References

1. Sham, H.L., Kempf, D.J., Molla, A., *et al.* ABT-378, a highly potent inhibitor of the human immunodeficiency virus protease. *Antimicrob. Agents Chemother.* **42**(12), 3218-3224 (1998).
2. Choy, K.-T., Wong, A.-Y., Kaewpreedee, P., *et al.* Remdesivir, lopinavir, emetine, and homoharringtonine inhibit SARS-CoV-2 replication in vitro. *Antiviral Res.* **178**, 104786 (2020).
3. Chan, J.-F., Yao, Y., Yeung, M.-L., *et al.* Treatment with lopinavir/ritonavir or interferon- β 1b improves outcome of MERS-CoV infection in a nonhuman primate model of common marmoset. *J. Infect. Dis.* **212**(12), 1904-1913 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM